

WHAT IS CLAIMED IS:

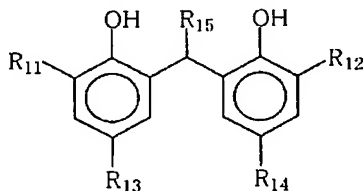
1. A photothermographic material comprising a substrate, and a photosensitive silver halide, a non-photosensitive organic silver salt, reducing agents for thermal development and a binder which are provided on the substrate, wherein:

the reducing agents for thermal development include a reducing agent which does not form a dye during thermal development and a reducing agent which forms a dye during thermal development; and

the reducing agent which forms a dye has higher activity than that of the reducing agent which does not form a dye.

2. A photothermographic material according to claim 1, wherein the reducing agent which does not form a dye is a compound represented by the general formula (R1), and the reducing agent which forms a dye is a compound represented by the following general formula (R2):

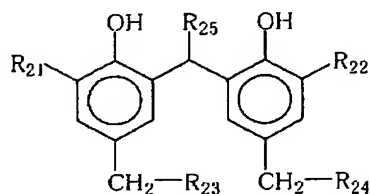
General formula (R1)



wherein R<sub>11</sub> and R<sub>12</sub> each independently represent a

secondary or tertiary alkyl group;  $R_{13}$  and  $R_{14}$  each independently represent an alkyl group having a 2 or more carbon atoms; and  $R_{15}$  represents an alkyl group:

General formula (R2)



wherein  $R_{21}$  and  $R_{22}$  each independently represent a secondary or tertiary alkyl group;  $R_{23}$  and  $R_{24}$  each independently represent a hydrogen atom, a hydroxyl group, an alkoxy group, an aryloxy group, an acyloxy group, an amino group or a heterocyclic group; and  $R_{25}$  represents a hydrogen atom or an alkyl group.

3. A photothermographic material according to claim 1, wherein the reducing agent represented by general formula (R2) is contained in an amount of 40% by mol or less relative to a total amount of the reducing agents.

4. A photothermographic material according to claim 2, wherein the reducing agent represented by general formula (R2) is contained in an amount of 40% by mol or less relative to a total amount of the reducing agents.

5. A photothermographic material according to claim 1, which further comprises a development promoter.

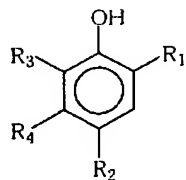
6. A photothermographic material according to claim 2, which further comprises a development promoter.

7. A photothermographic material according to claim 5, wherein the development promoter contains at least one selected from the group consisting of a compound represented by the following general formulae (A-1) and a compound represented by the following general formula (A-2):

General formula (A-1)



wherein  $Q_1$  represents an aromatic group or a heterocyclic group which bonds to  $-\text{NHNH}-Q_2$  via a carbon atom;  $Q_2$  represents a carbamoyl group, an acyl group, an alkoxycarbonyl group, an aryloxycarbonyl group, a sulfonyl group or a sulfamoyl group,  
General formula (A-2)



wherein  $R_1$  represents an alkyl group, an acyl group, an acylamino group, a sulfonamide group, an alkoxycarbonyl group, or a carbamoyl group;  $R_2$  represents a hydrogen atom, a halogen

atom, an alkyl group, an alkoxy group, an aryloxy group, an alkylthio group, an arylthio group, an acyloxy group, or a carbonic acid ester group; and  $R_3$  and  $R_4$  each represent a group which is substitutable at a benzene ring, or couple with each other to form a condensed ring.

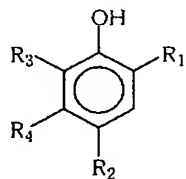
8. A photothermographic material according to claim 6, wherein the development promoter contains at least one selected from the group consisting of a compound represented by the following general formulae (A-1) and a compound represented by the following general formula (A-2):

General formula (A-1)



wherein  $Q_1$  represents an aromatic group or a heterocyclic group which bonds to  $-\text{NHNH}-Q_2$  via a carbon atom;  $Q_2$  represents a carbamoyl group, an acyl group, an alkoxycarbonyl group, an aryloxy carbonyl group, a sulfonyl group or a sulfamoyl group,

General formula (A-2)



wherein  $R_1$  represents an alkyl group, an acyl group, an acylamino group, a sulfonamide group, an alkoxycarbonyl group, or a carbamoyl group;  $R_2$  represents a hydrogen atom, a halogen

atom, an alkyl group, an alkoxy group, an aryloxy group, an alkylthio group, an arylthio group, an acyloxy group, or a carbonic acid ester group; and R<sub>3</sub> and R<sub>4</sub> each represent a group which is substitutable at a benzene ring, or couple with each other to form a condensed ring.

9. A photothermographic material according to claim 1, which further comprises a hydrogen bond-forming compound.

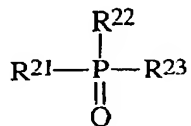
10. A photothermographic material according to claim 2, which further comprises a hydrogen bond-forming compound.

11. A photothermographic material according to claim 7, which further comprises a hydrogen bond-forming compound.

12. A photothermographic material according to claim 8, which further comprises a hydrogen bond-forming compound.

13. A photothermographic material according to claim 9, wherein the hydrogen bond-forming compound is a compound represented by the following general formula (D):

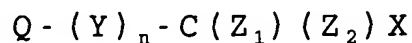
General formula (D)



wherein  $R^{21}$  to  $R^{23}$  each independently represent an alkyl group, an aryl group, an alkoxy group, an aryloxy group, an amino group or a heterocyclic group.

14. A photothermographic material according to claim 1, which comprises a compound represented by the following general formula (H);

General formula (H)



wherein Q represents an alkyl group, an aryl group or a heterocyclic group; Y represents a divalent linking group;  $Z_1$  and  $Z_2$  each represent a halogen atom; X represents a hydrogen atom or an electron withdrawing group; and n represents 0 or 1.

15. A photothermographic material according to claim 1, wherein a total amount of coated silver is  $1.9 \text{ g/m}^2$  or less.

16. A photothermographic material according to claim 1, wherein thermal developing is completed within 16 seconds.